Phase 1 – Project Scoping and Features Identification

1. Course Overview:

This course covers principles, techniques, architectures, and enabling technologies for the development of various components and layers of web-oriented systems. Students will benefit from: Working within teams and learning to collaborate in the development of software systems – thus the opportunity for getting exposed to the culture of participation. Furthermore, students will gain experience employing the agile software engineering methodologies, as well as developing appropriate testing strategies and methodologies for given projects.

An important aspect will be to *learn by reflection.* This means, whatever steps are taken students should become aware of what they are doing and reflect on the consequences. More importantly, unlike courses that prescribe precise course specification, students should expect to think for themselves *"outside the box"* particularly at the early stages, and utilise this as an exciting opportunity to apply their own creativity in influencing the design and definition of their course project.

For the duration of the course, assessments are organised into a series of "Phases". At each phase, each contains a set of deliverables that need to be completed by the "Phase Deadline". Late penalties normally apply.

2. Project – Phase 1: Project Scoping and Features Identification (Requirements)

Overall Aim of Phase 1: This phase serves to build upon the brainstorming process. In essence, this phase aims to formalise "what" the project will set out accomplish; while the future phases of this phase will address the blueprint about "how" the intended system will be implemented.

An **open** phase for exploring the **potential** requirements of the course. At the heart of this phase, you will be required to conduct a *"Brainstorming"* process within your group with guidance from your mentor. In general, brainstorming can often be proved as a very effective way to generate a plethora of interesting ideas over a specific issue in a collaborative manner. Where moreover, you may also thereby determine which idea (or ideas) is the best solution to a given problem. In addition, it is important to conduct background research, in particular those related to the overall theme of your project.

This an **open** phase for exploring the **potential** requirements of the project. During this phase, this means the possibilities are open for negotiation, however, by the end of the phase, a **contract** must be agreed upon. It is thus expected that the intended requirements that translate from the specified scope should not change from Phase 2 onwards. Furthermore, it may be important to make specific **definitions**, to make the contract very clear so that proposed design satisfy the contract.

More specifically, deliverables for this phase should be organised as follows:

Part 1. Project Scoping

Provide a brief description of the project summary, as you understand and *in your own words*. You are of course welcome to add any other extra information and details to formulate and support your response. We suggest using the following format:

Provide a project summary including project goals. In essence, this serves to define the high-level goals of the entire project. The following is a **summarised** example from previous students (different topic!). As we see ideally it should be organised into the following layers:

(A) Vision Statement:

> *"The goal of our project is to create an online learning environment where reputable lecturers, mentors and eager students can communicate and participate in a variety of full-length courses all over the world that both rival and complement physical institutions."*

(B) General Goals:

- *Create a course feedback system so any issues can be addressed; allowing the best learning experience to be provided.*
- *Provide appropriate information, such as a user-based course and lecturer ratings, to aid users in selecting the right course to enrol in.*
- *Add features such that credible members of the community are recognized. (e.g., a system where users can give reputation points to other users who have made helpful posts on the course forums.)*
- *Build a simplistic, clutter-free and easy to navigate learning environment; where users can immediately enjoy the education without having to learn any tedious functionalities of the website.*
- *Ensure the validity of all course content is maintained at the highest standard. Users shouldn't have a doubt over the quality of the information being provided to them.*
- *Expand the current forum feature to form a happier community. (Ideas include all course related discussion visible to the wider community, as well as a general discussion forum where like-minded self-motivated users can discuss non-course related topics.*

(C) Group/Team Goals:

> *Visual Browsing team: (Student 1, Student 2)*
> - *Improving the user experience on the MOOC*
> *People Management team: (Student 2, Student 3, Student 4)*
> - *Devising effective methods of MOOC control based on tiers*
> - *Coordinating with the visual browsing team for seamless visual implementation of management systems*

(D) Individual Team Member Goals:

> **Student 1 ->** *Devise features for visual browsing, currently lacking in the platform to enhance the social connectivity of users in the MOOC system*
>
> **Student 2 ->** *Re-evaluation of pre-existing visual features and management of visible information (i.e., personal details of users) of the MOOC system to improve the user experience*
>
> **Student 3 ->** *Overseeing development of management controls for lecturers*
>
> **Student 4 ->** *Overseeing development of management controls for tutors*
>
> **Student 5 ->** *Overseeing development of management controls for students*

Part 2. Requirements/Features Analysis.

Identify requirements, i.e., features of the project. Requirement's analysis provides an important part of the software engineering process, and serves to formalise "**what** needs to be done … input for design; schedule or costing … but also an artefact for discussion…". Requirements are often expressed as **"features"**. Moreover, we may also consider "features" or a "set of features" as a means for satisfying an identified software requirement.

The criteria for marking this phase will likely seek to attain whether you have: (i) Thoroughly identified required features based on your previously specified problem statements; (ii) Effectively understood and described these features using user-stories (a note of advice, please utilise the SMART principles for writing good features); (iii) Provided a concise response.

Identify and describe user-stories. Using part of the SMART guidelines.

The following is a summarised "working example" to be used a guidance in helping you prepare you submission for this deliverable:
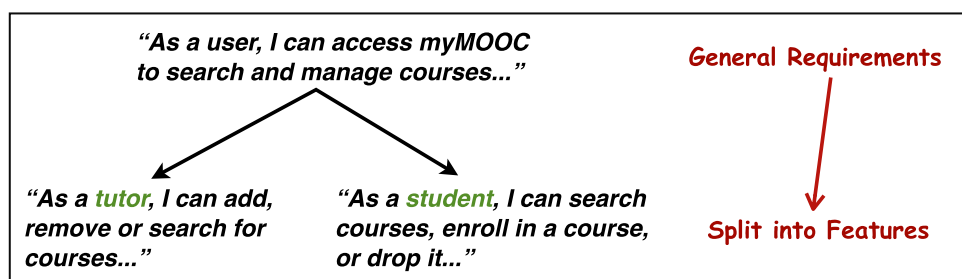
The above starts with a general "requirement" (obtained from your project goals). This is then decomposed into a "set of features" (where applicable). In this case, "people" are generic, which could be refined into two main categories of people, namely: Students and Tutors.

Subsequently, feature themselves may often be "complex", in which case they can be further split. Finally, each finest-grained feature may then be expressed as "user-stories". As mentioned, a user-story captures both: Description of the **Feature** + Description of a potential **Scenario**.
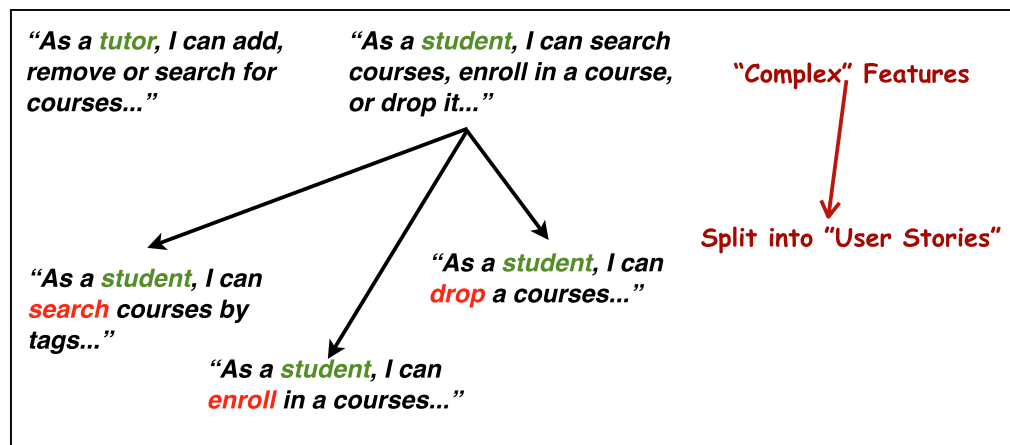
Please refer to Slides of Phase1-Brief and Guidelines for notations to express features.

3. Other Relevant General Guidelines:

- Please ensure to clarify and discuss assumptions you made.
- Be aware, that while in general requirements and design should be agreed upon and expected to be abided – you may nonetheless expect that in some cases requirements and design evolve and might be updated during the implementation phase. Likewise, it is thus important to heed great care during this phase, to establish a comfortable set of requirements and design elements, to ensure development begins on good foundations.
- We provide the SMART principle as guidelines how to make sure that proposed features are clear and easy to reason about. They are is a set of principles to keep in mind when documenting features to make sure that: features that you are specifying are not vague and will not interpreted in a wrong way.
- You should aim that the number of pages to be around 5 pages for this entire phase.

4. Marking Scheme:

PART	Excellent	Satisfactory	Poor
Part 1. Project Scoping [25%]	Provides a well-structured (see notes) Summary statement. That captures: vision statement; general goals; how those goals reflect the overall group effort; and finally how those	A Summary Statement is provided; is organized as per the notes, but content is not sufficient and/or lacking in substance.	No statement is provided, or provided but either not well-structured, or content is incorrect and does not demonstrate a proper well-

	goals are linked to team members.		thought summary statement.
Part 2. *Requirements;* *Features Analysis.* *[75%]*	Delineates a set of appropriate features (i.e. requirements), that correctly reflects "what" the intended project will offer. Well-thought features are provided that correctly reflect the project scope. Features are concise (i.e. does not confuse irrelevant content).	Set of features are described, but either not correctly expressed (e.g. describes "how" not "what"), and/or does not reflect the intended scope of the project.	Features are either incorrectly or not specified at all, and/or are not specific enough to reflect the intended scope of the project.

5. **Submission & Deadline:**

You are required to prepare a document for Phase 1 based on the above guidelines, and submit it to through the online course management system Microsoft Teams (submission instructions will be made available). The deadline for submission of Phase 1 is **Wednesday, June 23rd 2021 @ 19:59 (Late Penalty apply)**. Please feel free to contact your mentors in order to discuss any further issues and/or details. **Please note** that we will track attendance to mentoring sessions and use other mechanisms to make the marks individuals.